

## ABSTRACT

The present invention describes a method of and apparatus for operating upon digital data by which the digital data is partitioned into a plurality of blocks, a plurality of threads are created, such that each thread includes at least one of the plurality of blocks, and thereafter each of the threads are operated upon to obtain a plurality of compressed threads, each compressed thread including at least one compressed block of digital data. In this method, the threads are operated upon using a compression engine such that a compression algorithm repeatedly, a cyclical manner, compresses data that in a previous pass was already compressed by the compression engine. Between each of the compression passes, the then compressed data is operated upon using metadata established in the previous pass to eliminate redundancies that exist in the data compressed in the previous pass. Accordingly, the present invention compress digital data using multiple passes of a predetermined compression algorithm to obtain compressed digital data, and subsequently compress the compressed digital data using a single pass of a corresponding decompression algorithm to obtain the digital data in a lossless process.